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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/818,263	03/26/2001	Hisanobu Ishiyama	81751.0011	9233

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HOGAN & HARTSON L.L.P.
500 S. GRAND AVENUE
SUITE 1900
LOS ANGELES, CA 90071-2611

EXAMINER

LAO, LUN YI

ART UNIT PAPER NUMBER

2673

15

DATE MAILED: 12/31/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

TS

Office Action Summary

Application No.

09/818,263

Applicant(s)

Ishiyama

Examiner

Lun-yi Lao

Art Unit

2673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Oct 28, 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above, claim(s) 5-7 and 14-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 8-13, and 18-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☒ Interview Summary (PTO-413) Paper No(s). 15
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

Art Unit: 2673

DETAILED ACTION

Drawings

1. Figures 10A-10C should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, 8-11 and 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishizaki et al (EP 0,558,059) in view of Itoh et al (6,229,515).

Art Unit: 2673

As to claims 1, 2, 8-11 and 18-21, Ishizaki et al teach a liquid crystal device comprising a plurality of scanning lines; a plurality of data lines; a plurality of switching elements(104); a plurality of pixel electrodes connected to the plurality of switching elements; a plurality of row opposite electrodes arranged oppositely to the plurality of pixel electrodes through a liquid crystal layer; a scanning line driving circuit(101); a data line driving circuit(102) and a polarity inverting circuit(103, 111) for reversing a polarity of a voltage applied to the liquid crystal layer by changing a voltage supplied to an opposite electrode of a row corresponding to the selected scanning line in synchronization with the scanning period(see figures 1-5; column 4, lines 16- 58; column 5, lines 1-58 and column 6, lines 1-2).

As to claims 1, 10 and 18, Ishizaki et al teach the polarity of a voltage supplied to an opposite electrode will be reversed line by line or frame by frame(see figures 1-4; column 3, lines 18-29; column 5, lines 26-58 and column 6, lines 1-2). Ishizaki et al fail to invert the polarity of a voltage supplied to an opposite electrode in each of the subfields.

Itoh teaches an LCD display apparatus for reversing the polarity of a voltage supplied to an opposite electrode(common electrodes) will be reversed in each of the subfields(see figures 2-8B; column 1, lines 19-44; column 2, lines 4-21 and lines 44-46; column 4, lines 49-67; column 6, lines 38-48; column 9, lines 1-56; column 10, lines 61-68; column 11, lines 1-5 and lines 63-68 and column 12, lines 1-35). It would have been obvious to have modified Ishizaki et al with the teaching of Itoh, so as to reduce the power consumption and improve image quality(see column 4, lines 43-56).

Art Unit: 2673

As to claims 1, 10 and 18-21, Itoh teaches a signal control circuit(14, 16) and a counter circuit(15)(see figure 2).

As to claims 8 and 17, Ishizaki et al teach M rows of opposite electrodes are insulated from each other(see figures 1 and 4).

4. Claims 3-4 and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishizaki et al (EP 0,558,059) in view of Itoh et al(6,229,515) and Hosokawa et al(4,393,380).

As to claims 3-4 and 12-13, Ishizaki et al teach a polarity inverting circuit(103, 111) comprising a shift register for shift a clock signal(see figures 1, 4 and column 4, lines 16-21). Ishizaki et al fail to disclose the polarity inverting circuit having a shift register for shift electric potential for applying to the row of opposite electrodes.

Hosokawa et al teach an LCD display having a common driver(34) having a shift register for performing a memory function(see figures 4, 7-9; column 7, lines 35-68 and column 8, lines 1-8). It would have been obvious to have modified Ishizaki et al as modified with the teaching of Hosokawa et al, so as to simplify the driving circuit.

Response to Arguments

5. Applicant's arguments with respect to claims 1-4, 8-13 and 18-21 have been considered but are moot in view of the new ground(s) of rejection.

Art Unit: 2673

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Tsumura et al(JP 6-222330) teach an LCD display for reversing image signal in every plural sub-fields.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lun-yi, Lao whose telephone number is (703) 305-4873.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala, can be reached at (703) 305-4938.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Application/Control Number: 09/818,263

Page 6

Art Unit: 2673

December 24, 2003

Lu . Y. Lao

Lun-yi Lao

Primary Examiner